



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/574,145

03/29/2006

Leendert Van Der Tempel

GB 030180

3766

24737

7590

10/15/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

PEACE, RHONDA S

ART UNIT

PAPER NUMBER

2874

MAIL DATE

DELIVERY MODE

10/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/574,145 | Applicant(s) VAN DER TEMPEL, LEENDERT | |
| | Examiner Rhonda S. Peace | Art Unit 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 12 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/2008</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 9/29/2008 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

The abstract filed 7/15/2008 meets requirements as set forth by U.S. practice, and therefore has been entered into the record.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-11, 13, and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hioki et al (US 6,987,284).

Pertaining to claims 1 and 18, Hioki et al discloses a method of fabricating a device as seen in Figure 1B comprising a first layer 102, and a second layer comprising sub-layers 103-105, wherein the first layer 102 is flexible, and the second layer sub-layer 103 has a corrugated structure and is in contact with the first layer 102 along a

Art Unit: 2874

substantial portion of said second layer 103-105 so as to prevent fracture of the second layer 103 when the first layer 102 is deformed. The second layer comprises a conductive electrode 112, and a sub-layer 103 having a plurality of crest and trough portions, wherein the length of each crest and trough portion is selected to prevent fracture when the first layer 102 is deformed to a predetermined radius of curvature. See Figures 1B and 14-18, col. 7 lines 35-49, col. 9 lines 28-39, col. 11 lines 8-39.

Concerning claims 19 and 20, Hioki et al further discloses forming cracks 301 in the second layer sub-layer 103 by subjecting said sub-layer 103 to a predetermined radius of curvature. Said cracks 301 are then chemically polished to form the crests and troughs of sub-layer 103, thereby teaching the length of the said crests and troughs are determined based upon the spacing of said cracks 301. See Figures 11-12, 10 lines 18-47. Moreover, as shown in Figure 18, the length of the troughs and crests may also be determined based upon the average spacing between the cracks 301, such that cracks 301 spaced according to the average spacing between cracks 301 occur along the peak of the said troughs of second layer sub-layer 103. See Figure 18, col. 11 lines 28-39.

Pertaining to claim 3, Hioki et al discloses a third layer 101 in contact with said first layer 102, wherein the third layer 101 comprises a substrate, and the first layer 102 comprises a coating on said substrate. See Figure 1B and col. 7 lines 35-38.

With regard to claims 6-8, Hioki et al discloses the second layer sub-layer 103 as a coating of the first layer 102, as the second layer 103 completely covers the first layer 102. See col. 7 lines 35-38. Moreover, the first layer 102 exhibits a corrugated

topography, as seen in Figure 1B. The second layer sub-layer 103 comprises a series of adjoining troughs and crests, wherein each trough and ridge exhibits substantially flat portions, as seen in Figures 1B, 9, and 10, for example. See col. 13 lines 16-36.

Pertaining to claims 9-11 and 13, Hioki et al discloses the second layer sub-layer 103 has a waveform-type corrugated structure and is in contact with the first layer 102 along a substantial portion of said second layer sub-layer 103 so as to prevent fracture of the second layer sub-layer 103 when the first layer 102 is deformed. See col. 11 lines 8-15. Moreover, as shown in Figure 18, the length of the troughs and crests may also be determined based upon the average spacing between the cracks 301, such that cracks 301 spaced according to the average spacing between cracks 301 occur along the peak of the said troughs of second layer 103, wherein the length of each flat portion, as seen in Figure 18, is less than the average spacing between cracks 301. See Figure 18, col. 11 lines 28-39.

Concerning claims 15-17, Hioki et al discloses the second layer sub-layer 103 is formed of a thin glass (silicon dioxide) plate which is a transparent light-conducting oxide material. See col. 7 lines 35-37. Moreover, Hioki et al discloses using the above-described device in a display apparatus. See col. 1 lines 15-17.

Addressing claim 2, Hioki et al discloses the device as described above. Furthermore, the “first layer” of claims 1 and 18 may also be met by the combination of sub-layers 102 and 101. In this interpretation, the first layer of Hioki et al also discloses the first layer, specifically sub-layer 101 of the first layer, is a substrate. See Figure 1B, and col. 7 lines 35-41.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hioki et al (US 6,987,284), in further view of Nanoux (US 3,936,341).

Pertaining to claim 5, Hioki et al discloses the display device as described above. Hioki et al discloses the third layer 101 may be formed of a thermoplastic polyimide resin. See col. 11 lines 40-50. However, Hioki et al does not disclose the use of acrylate lacquer for first layer 102, which serves as an adhesion layer. Nanoux discloses the use of an adhesive acrylate lacquer provided on a thermoplastic resin. See col. 1 lines 60-64, and the abstract. It would have been obvious to one of ordinary skill in the art to form the first layer of Hioki et al with an acrylate lacquer, as Nanoux et al discloses such a material provides excellent adhesion properties with a thermoplastic resin and has good resistance to delamination. See Nanoux, col. 1 lines 54-64.

Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design preference. *In re Leshin*, 125 USPQ 416.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hioki et al (US 6,987,284), in further view of Takami et al (US 6,697,131).

Addressing claim 14, Hioki et al discloses the display device as described above, including that the first layer substrate 101 may be formed of plastic. See col. 7 lines 35-38. However, Hioki et al does not disclose the substrate 101 as being formed of the thermoplastic resin polyvinyl chloride. Takami et al discloses a liquid crystal display having substrate 1, 1', 2, and 2' upon which a plurality of electrodes 5a, 5a', 5b, and 5b' are formed. Moreover, Takami et al discloses said substrates may be formed of inorganic glass or organic compounds such as polyvinyl chloride. See Takami et al, col. 13 lines 65-67 and col. 14 lines 1-9. It would have been obvious to one of ordinary skill in the art to use polyvinyl chloride as a material for substrate 104, as polyvinyl chloride is transparent, and provides electrical isolation to electrodes formed thereon, thereby eliminating the need for an additional insulator between substrate 104 and the electrodes 112 in the device of Hioki et al. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design preference. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

Claims 4 and 12 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Pertaining to claim 4, the most applicable prior art does not disclose or reasonably suggest a device comprising a first flexible layer, a second layer having a corrugated structure and being in contact with said first flexible layer along a substantial portion of a length of said second layer so as to prevent fracture of said second layer when said first flexible layer is deformed, and a third layer in contact with said first flexible layer, wherein said third layer comprises a substrate and said first flexible layer comprises one or more coatings on said substrate, and wherein said third layer comprises a corrugated topography. The most applicable art, Hioki et al, discussed above, fails to disclose or reasonably suggest a corrugated substrate, and instead only shows first and second layers that are corrugated. Therefore claim 4 is allowable over the prior art.

Addressing claim 12, the most applicable prior art does not disclose or reasonably suggest a device comprising a first layer, wherein the first layer is flexible, a second having a corrugated structure and being in contact with said first flexible layer along a substantial portion of a length of said second layer so as to prevent fracture of said second layer when said first flexible layer is deformed, wherein the second layer comprises a series of adjoining troughs and ridges, each trough and ridge including substantially flat portions, and wherein the substantially flat portions are interconnected to provide a continuous path for an electric current. The crests and troughs of Hioki et al are formed within a glass layer, and therefore do not form a continuous path for

electric current. Hioki et al fails to disclose or suggest forming electrodes within the display device with a corrugated topography such that electrical current may be passed along the corrugated line. Therefore, claim 12 is allowable over the prior art.

Response to Arguments

Applicant's arguments filed 7/15/2008 have been fully considered but they are not persuasive.

Applicant argues Hioki et al fails to disclose a second layer as set forth in claims 1 and 18, wherein the second layer comprises a conductive electrode. The Examiner respectfully disagrees.

As explained above, the "second layer" of Hioki et al is formed by portions 103-105 of the display device as seen in Figure 1B. The combination of portions 103-105 meet all requirements as recited in claims 1 and 18. It is of note that the term "layer" or "second layer" is considerably broad within the art, as "layer" can refer to any given region of space, and therefore the combination of multiple portions is a "layer."

Conclusion

The following art made of record and not relied upon is considered pertinent to applicant's disclosure: Tanada et al (US 2002/0054257 A1), Tatsumi (US 2002/0067456), Green (US 2002/0068389 A1), Huitema et al (US 2002/0130614), Tanada et al (US 2004/0090574 A1), and Tanada et al (EP 1189097 A2).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571)272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272- 2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rhonda S. Peace/
Examiner, Art Unit 2874

/Michelle R. Connelly-Cushwa/
Primary Examiner, Art Unit 2874